



PATENT  
Client-Matter No.:  
66872-032 (P-AR 5750)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	Group Art Unit: 1632
Liang and Woodward	)	Confirmation no.: 3328
	)	Examiner: Unassigned
Serial No.: 10/620,289	)	
	)	
Filed: July 14, 2003	)	I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on January 23, 2004.
	)	
For: HUMAN PROSTAGLANDIN	)	By: <u>Andrea L. Gashler</u>
FP RECEPTOR VARIANTS AND	)	Andrea L. Gashler, Reg. No. 41,029
METHODS OF USING SAME	)	
	)	<u>January 23, 2004</u>
	)	Date of Signature

\_\_\_\_\_  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. § 1.97, enclosed are references relating to the above-identified application. For the convenience of the Examiner, these references are listed on the attached Form PTO-1449, and a copy of each is enclosed herewith.

It is respectfully requested that these references be considered in the examination of this application and that their consideration be made of written record in the application file.

Inventors: Liang and Woodward  
Serial No.: 10/620,289  
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No fee is deemed necessary in connection with the filing of this Information Disclosure Statement. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 502624.

Respectfully submitted,

Date: January 23, 2004

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Form PTO 1449 US Department of Commerce Patent and Trademark Office	ATTY CLIENT-MATTER NO: 66872-032 (P-AR 5750)	SERIAL NO. 10/620,289
	APPLICANT: Liang and Woodward	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	FILING DATE: July 14, 2003	GROUP: Unassigned CONFIRMATION NO.: Unassigned

## U.S. PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	5,869,281	2/9/99	Abramovitz et al.	435	69.1	6/25/93
	6,329,426	12/11/01	Ueno	514	530	12/28/98
	6,416,972	7/9/02	Lake et al.	435	69.1	6/23/97
	6,492,417	12/10/02	Sharif et al.	514	530	12/14/98
	6,511,999	1/28/03	Burk et al.	514	374	2/8/02

## FOREIGN PATENT DOCUMENTS

EXAM. INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION (YES/NO)

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages)

	Abramovitz et al., "Cloning and expression of a cDNA for the human prostanoid FP receptor," <u>J. Biol. Chem.</u> 269:2632-2636 (1994).
	Anderson et al., "Prostaglandin F <sub>2α</sub> receptor in the corpus luteum: Recent information on the gene, messenger ribonucleic acid, and protein," <u>Biology of Reproduction</u> 64:1041-1047 (2001).
	Anderson et al., "Prostaglandin moieties that determine receptor binding specificity in the bovine corpus luteum," <u>J. Reprod. Fertil.</u> 116:133-141 (1999).
	Betz et al., "Genomic structure, 5' flanking sequences, and precise localization in 1P31.1 of the human prostaglandin F receptor gene," <u>Biochem. Biophys. Res. Commun.</u> 254:413-416 (1999).
	Bhattacharya et al., "Nuclear prostaglandin receptors," <u>Gene Ther. Mol. Biol.</u> 4:323-338 (1999).

EXAMINER DATE CONSIDERED \_\_\_\_\_

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

	Boiti et al., "Nitric oxide synthase activity and progesterone release by isolated corpora lutea of rabbits in the early and mid-luteal phases of pseudopregnancy are modulated differently by prostaglandin E-2 and prostaglandin F-2alpha via adenylate cyclase and phospholipase C," <u>J. Endocrinol.</u> 164:179-186 (2000).
	Carrasco et al., "Activation of the prostaglandin FP receptor in human granulosa cells," <u>J. Reprod. Fertil.</u> 111:309-317 (1997).
	Chen et al., "Prostaglandin F2alpha stimulates the Raf/MEK1/mitogen-activated protein kinase signaling cascade in bovine luteal cells," <u>Endocrinology</u> 139:3876-3885 (1998).
	Davis et al., "Prostaglandin F2 alpha stimulates phosphatidylinositol 4,5-bisphosphate hydrolysis and mobilizes intracellular Ca <sup>2+</sup> in bovine luteal cells," <u>Proc. Natl. Acad. Sci. USA</u> 84:3728-3732 (1987).
	Duncan et al., "Chromosomal localization of the human prostanoid receptor gene family," <u>Genomics</u> 25:740-742 (1995).
	Ezashi et al., "Genomic organization and characterization of the gene encoding bovine prostaglandin F2alpha receptor," <u>Gene</u> 190:271-278 (1997).
	Fu et al., "Peroxisome proliferator-activated receptor gamma inhibits transforming growth factor beta-induced connective tissue growth factor expression in human aortic smooth muscle cells by interfering with Smad3," <u>J. Biol. Chem.</u> 276:45888-45894 (2001).
	Fujino et al., "Delayed reversal of shape change in cells expressing FP( <sub>B</sub> ) prostanoid receptors. Possible role of receptor resensitization," <u>J. Biol. Chem.</u> 275:29907-29914 (2000).
	Graves et al., "Cloning of a receptor for prostaglandin F2 alpha from the ovine corpus luteum," <u>Endocrinology</u> 136:3430-3436 (1995).
	Griffin et al., "FP prostaglandin receptors mediating inositol phosphates generation and calcium mobilization in Swiss 3T3 cells: A pharmacological study," <u>J. Pharmacol. Exp. Ther.</u> 281:845-854 (1997).
	Gusovsky, "Prostaglandin receptors in NIH 3T3 cells: Coupling of one receptor to adenylate cyclase and of a second receptor to phospholipase C," <u>Mol. Pharmacol.</u> 40:633-638 (1991).
	Hasumoto et al., "Characterization of the mouse prostaglandin F receptor gene: A transgenic mouse study of a regulatory region that controls its expression in the stomach and kidney but not in the ovary," <u>Genes Cells</u> 2:571-580 (1997).
	Ishikawa et al., "Mapping of the genes encoding mouse prostaglandin D, E, and F and prostacyclin receptors," <u>Genomics</u> 32:285-288 (1996).
	Juengel et al., "Regulation of steady-state concentrations of messenger ribonucleic acid encoding prostaglandin F2 alpha receptor in ovine corpus luteum," <u>Biol. Reprod.</u> 54:1096-1102 (1996).
	Kiriyama et al., "Ligand binding specificities of the eight types and subtypes of the mouse prostanoid receptors expressed in Chinese hamster ovary cells," <u>Br. J. Pharmacol.</u> 122:217-224 (1997).
	Kitanaka et al., "Cloning and expression of a cDNA for rat prostaglandin F2 alpha receptor," <u>Prostaglandins</u> 48:31-41 (1994).
	Lake et al., "Cloning of the rat and human prostaglandin F2 alpha receptors and the expression of the rat prostaglandin F2 alpha receptor," <u>FEBS Lett.</u> 355:317-325 (1994).

		Liang et al., "Comparison of PGF2 $\alpha$ , Bimatoprost (prostamide) and butaprost (EP2 agonist) on Cyr61 and CTGF gene expression," <u>J. Biol. Chem.</u> 278:27267-27277 (2003).
		Liu et al., "PLD activation in Chinese hamster ovary (CHO) cells transfected with PGF2 alpha receptor cDNA," <u>Prostaglandins</u> 51:233-248 (1996).
		Narumiya and FitzGerald, "Genetic and pharmacological analysis of prostanoid receptor function," <u>J. Clin. Invest.</u> 108:25-30 (2001).
		Niswender et al., "Mechanisms controlling the function and life span of the corpus luteum," <u>Physiol. Rev.</u> 80:1-29 (2000).
		Ogawa et al., "Structural organization and chromosomal assignment of the human prostacyclin receptor gene," <u>Genomics</u> 27:142-148 (1995).
		Pierce and Regan, "Prostanoid receptor heterogeneity through alternative mRNA splicing," <u>Life Sciences</u> 62:1479-1483 (1998).
		Pierce et al., "Activation of FP prostanoid receptor isoforms leads to Rho-mediated changes in cell morphology and in the cell cytoskeleton," <u>J. Biol. Chem.</u> 274:35944-35949 (1999).
		Pierce et al., "Cloning of a carboxyl-terminal isoform of the prostanoid FP receptor," <u>J. Biol. Chem.</u> 272:883-887 (1997).
		Sakamoto et al., "Expression of mRNA encoding the prostaglandin F2 alpha receptor in bovine corpora lutea throughout the oestrous cycle and pregnancy," <u>J. Reprod. Fertil.</u> 103:99-105 (1995).
		Sakamoto et al., "Molecular cloning and expression of a cDNA of the bovine prostaglandin F2 alpha receptor," <u>J. Biol. Chem.</u> 269:3881-3886 (1994).
		Sakamoto et al., "Prostaglandin F2 alpha receptor," <u>J. Lipid Mediat. Cell Signal</u> 12:405-411 (1995).
		Stjernaschantz et al., "Microvascular effects of selective prostaglandin analogues in the eye with special reference to latanoprost and glaucoma treatment," <u>Prog. Retin. Eye Res.</u> 19:459-496 (2000).
		Sugimoto et al., "Cloning and expression of a cDNA for mouse prostaglandin F receptor," <u>J. Biol. Chem.</u> 269:1356-1360 (1994).
		Susanna et al., "Current status of prostaglandin theory: Latanoprost and unoprostone," <u>Surv. Ophthalmol.</u> 47:S97-104 (2002).
		Taketo et al., "Mapping of the genes encoding mouse thromboxane A2 receptor and prostaglandin E-receptor subtypes EP2 and EP3," <u>Genomics</u> 19:585-588 (1994).
		Tsai et al., "Distinct mechanisms regulate induction of messenger ribonucleic acid for prostaglandin (PG) G/H synthase-2, PGE (EP3) receptor, and PGF2 alpha receptor in bovine preovulatory follicles," <u>Endocrinology</u> 137:3348-3355 (1996).
		Tsai et al., "Regulation of prostaglandin F2 alpha and E receptor mRNA by prostaglandin F2 alpha in ovine corpora lutea," <u>J. Reprod. Fertil.</u> 114:69-75 (1998).
		Tsai and Wiltbank, "Prostaglandin F2 alpha regulates distinct physiological changes in early and mid-cycle bovine corpora lutea," <u>Biol. Reprod.</u> 58:346-352 (1998).
		Uemura et al., "Identification of a new enhancer in the promoter region of human TR3 orphan receptor gene. A member of steroid receptor superfamily," <u>J. Biol. Chem.</u> 270:5427-5433 (1995).

	Weinreb et al., "Effects of prostaglandins on the aqueous humor outflow pathways," <u>Surv. Ophthalmol.</u> 47:S53-64 (2002).
	Wiltbank et al., "Hormonal regulation of free intracellular calcium concentrations in small and large ovine luteal cells," <u>Biol. Reprod.</u> 41:771-778 (1989).
	Woodward et al., "The molecular biology and ocular distribution of prostanoid receptors," <u>Surv. Ophthalmol.</u> 41:S15-21 (1997).
	Woodward and Lawrence, "Identification of a single (FP) receptor associated with prostanoid-induced Ca <sup>2+</sup> signals in Swiss 3T3 cells," <u>Biochem. Pharmacol.</u> 47:1567-1574 (1994).
	Genbank Accession No. AAB36298
	Genbank Accession No. AAL36977
	Genbank Accession No. AB083784
	Genbank Accession No. AB083785
	Genbank Accession No. AB083786
	Genbank Accession No. AB083787
	Genbank Accession No. AB083788
	Genbank Accession No. AL136324.6
	Genbank Accession No. BAA20871
	Genbank Accession No. BG196146
	Genbank Accession No. BG199710
	Genbank Accession No. BG208551
	Genbank Accession No. BG209077
	Genbank Accession No. BG218035
	Genbank Accession No. BG220560
	Genbank Accession No. NM_000959
	Genbank Accession No. NP_037247
	Genbank Accession No. P43117
	Genbank Accession No. Q28905